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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,309	08/04/2003	Nir Dotan	25681-501	7868

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EXAMINER	
EWOLDT, GERALD R	
ART UNIT	**PAPER NUMBER**
1644	

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/634,309	DOTAN ET AL.	
	Examiner	Art Unit	
	G. R. Ewoldt, Ph.D.	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-59* is/are pending in the application.

4a) Of the above claim(s) *21 and 46-59* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-20 and 22-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's election of Group I in the paper filed 5/10/06, is acknowledged. Because Applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Applicant's election of the antibody species: a **combination** of anti-Glc(α1-4)Glc(α) and anti-Glc(α) and anti-GlcNAc(α) and anti-L-Rha(α) is also acknowledged. Applicant's further election of the antibody isotype: IgM is also acknowledged. Upon reconsideration the antibody isotype species election requirement has been withdrawn.

NOTE: The claims were originally examined as reciting a method employing only the elected species of antibodies, i.e., a combination of the four antibody species. A method employing the elected antibody species, a **combination** of anti-Glc(α1-4)Glc(α) and anti-Glc(α) and anti-GlcNAc(α) and anti-L-Rha(α) is free of the art. Accordingly the search has been extended to include a method employing an anti-GlcNAc antibody.

2. Claims 46-59 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to non-elected inventions. Claim 21 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected species

Claims 1-20 and 22-45 are being acted upon.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 1-20 and 22-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, specifically:

A) A method wherein the control sample is an individual or more than one individuals. Presumably it is intended that the control sample be obtained from an individual or more than one individuals.

B) A method wherein the control sample is determined using

an EDSS or MRI. Presumably the intent is to determine from whom a control sample might be obtained employing an EDSS or MRI.

C) Claim 16 is vague and indefinite as it is unclear what is encompassed by "an early diagnosis" of MS.

D) Claim 27 is vague and indefinite as it is unclear what is intended by the claim.

5. Claims 1-20 and 22-45 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: a step indicating what changes/differences in antibody levels and comparison thereof indicates. The claims simply recite that a change/difference indicates MS. Presumably, a higher level of antibodies in a subject as compared to a control is indicative of disease.

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-20 and 22-45 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, the specification provides insufficient evidence that the method of the instant claims would function as claimed.

The specification disclosure is insufficient to enable one skilled in the art to practice the invention as claimed without an undue amount of experimentation. Undue experimentation must be considered in light of factors including: the breadth of the claims, the nature of the invention, the state of the prior art, the level of one of ordinary skill in the art, the level of predictability of the art, the amount of direction provided by the inventor, the existence of working examples, and the quantity of experimentation needed to make or use the invention, see *In re Wands*, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988).

In re Fisher, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970) states, "The amount of guidance or direction needed to enable the invention is inversely related to the amount of knowledge in the state of the art as well as the predictability in the art." "The "amount of guidance or direction" refers to that information in the application, as originally filed, that teaches exactly how to make or use the invention. The more that is known in the prior art about the nature of the invention, how to make, and how to use the invention, and the more predictable the art is, the less information needs to be explicitly stated in the specification. In contrast, if little is known in the prior art about the nature of the invention and the art is unpredictable, the specification would need more detail as to how to make and use the invention in order to be enabling" (MPEP 2164.03). The MPEP further states that physiological activity can be considered inherently unpredictable. With these teachings in mind, an enabling disclosure, commensurate in scope with the breadth of the claimed invention, is required.

A review of the specification discloses that the method of the instant claims presumably functions through a measurement of certain antibody levels in a subject as compared to a control wherein a higher level of certain antibodies in a subject is indicative of MS.

A review of the specification discloses that the claimed method cannot function as broadly claimed. See for example page 18 wherein it is disclosed that the method works only in with IgM, i.e., no significant difference were found in studies of IgG or IgA levels. For this reason alone the claimed method must be considered to be unpredictable and requiring of undue experimentation. A further review of the Inventor's own work raises additional issues. See, for example Schwarz et al. 2006. Therein the Inventor's teach a number of embodiments wherein the claimed method would not diagnose or predict MS. For example, while certain antibodies might distinguish an MS patient from a healthy patient, the authors established that anti-Glc(α), anti-GlcNAc(α), and anti-Rha(α) antibodies could not distinguish MS patients from patients with other autoimmune diseases. And no difference in antibody levels were found that could be used to distinguish treated from untreated MS patients. This finding, along with the finding that levels of most antibodies are not significantly different in patients with the less severe RRMS and the more severe PPMS, would argue that the claimed method could also not effectively distinguish, exacerbation of disease

(Claim 22), remission of disease (Claim 26), nor severity of disease (Claim 36). Accordingly, given the breadth of the claims and the state of the art, the method of the instant claims must be considered unpredictable and requiring of undue experimentation.

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 2 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Mazzucco et al. (1999).

Mazzucco et al. teaches a method of diagnosing MS comprising determining the level of anti-GlcNAc in a patient as compared to the level in healthy individual (see particularly page 169, *Biology*).

The reference teaching anticipates the claimed invention.

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-20 and 22-45 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-20 and 22-45 of U.S. Application No. 10/835,607. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '607 application recite the same method but not the same elected species (as no species restriction has yet been set forth).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

12. Claims 1-20 and 22-45 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-20 and 22-45 of U.S. Application No. 10/835,607. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '607 application recite the same method but not the same elected species (as no species restriction has yet been set forth).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

13. Claims 1-20 and 22-45 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-20 and 22-45 of U.S. Application No. 11/047,124. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '124 application recite the same method but not the same elected species (as no species restriction has yet been set forth).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

14. No claim is allowed.

15. Reference C2 on the 1449 submitted 2/05/04 has been lined through and has not been considered because the reference has not been submitted in the proper format, i.e., author, source, date, etc. See MPEP 609.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Gerald Ewoldt whose telephone number is (571) 272-0843. The examiner can normally be reached Monday through Thursday from 7:30 am to 5:30 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (571) 272-0841.

17. **Please Note**: Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

7/18/06

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Primary Examiner
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